

NMCP COVID-19 Report: Thursday, 02 April 2020

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Disclaimer: I am not a medical professional.

Statistics (as of Thursday, 02 April 2020 at 1100)

<i>United States</i>	<i>Virginia</i>
JHU CSSE Confirmed Cases: 216,768 NY: 84,046 Total deaths: 5,148 NY: 2,220 Total recovered: 8,710 Dept of Veterans Affairs Positive Veteran Cases: 1,602 (as of 01 April 2020)	VA Dept of Health Total cases: 1,706 Chesapeake: 39 Hampton: 16 Newport News: 33 Norfolk: 37 Portsmouth: 16 Suffolk: 6 Virginia Beach: 111 Total hospitalizations: 246 Total deaths: 41 Dept of Veterans Affairs Hampton VAMC: 13 inpatient, 4 outpatient

Quick Alert

Thursday, 02 April 2020, 1400-1530: CDC Clinician Outreach and Communication Activity (COCA): Clinical Management of Critically Ill Adults with Coronavirus Disease 2019 (COVID-19).
Call details and links: https://emergency.cdc.gov/coca/calls/2020/callinfo_040220.asp

Evidence Summaries

Temperature Screening

Most of the literature on mass screening for infectious-disease related fever are in travelers and other outbreaks, such as Ebola, SARS, and MERS. Summaries from various organizations ([CDC](#); [CADTH](#); [ECRI](#); [ECDC](#)) have looked at the effectiveness of using infrared or other hands-off methods of screening staff or visitors during infectious disease outbreaks. Generally, the evidence suggests they are ineffective ([ECRI](#)). Non-contact infrared thermometers "perform moderately well in detecting fever" ([ECDC](#)). The most recent summary from ECRI notes:

"Temperature screening programs using IR alone or with a questionnaire for mass screening are ineffective for detecting infected persons, based on our review of evidence from 2 large systematic reviews (SRs), 3 simulation studies, and 6 diagnostic cohort studies (not included in the SRs). Under best-case scenarios, simulation studies suggest such screening will miss more than half of infected individuals. They are ineffective for mass screening because of the low number of infected individuals who have fever at the time of screening and inconsistent technique by operators. Several authors concluded that IR thermometry even when used with a questionnaire was not reliable for screening due to environmental temperatures, false answers to questionnaires, and use of fever-reducing drugs. Using such an approach to reduce infection risk from visitors and staff entering healthcare facilities could provide a false sense of safety." ([ECRI](#))

PPE

[ECRI](#): Safety of Extended Use and Reuse of N95 Respirators (March 2020).

Limited evidence from laboratory studies (rather than clinical, due to major ethical and logistical issues) supports extended use of N95 single-use respirators over reuse. Increased touching from donning and doffing masks may spread infection but there is low transfer risk with aerosol spread. Disposable covers such as surgical masks with N95 extended use are unlikely to result in significant adverse effects. Also noted: N95s are prone to failure (e.g., broken straps, poor sealing on face) upon reuse, and effective disinfection methods may cause filter performance loss. They note: "Decontamination of N95 respirators by steam, disinfectants (e.g., bleach, hydrogen peroxide vapor), or ultraviolet germicidal irradiation (UVGI) may be safe and effective in some settings, but each method needs to be tested on each model because model materials vary."

Also from ECRI (25 March 2020):



Source: <https://www.ecri.org/landing-covid-19-medical-devices-respirator-masks>

[ECRI](#): Infection Risk from Scrubs Worn Outside Patient Care Settings (March 2018)

While this evidence assessment is older, I'm including it because of topic and potential questions about cross-contamination with wearing scrubs and/or uniforms.

"Evidence from 7 studies conducted in the United States or other countries is insufficient to determine whether wearing scrubs outside patient care settings increases risk of infection transmission. Findings from 1 nonrandomized comparison study and 4 surveillance studies suggest that scrub uniforms worn by staff in an intensive care unit (ICU), medical/surgical unit, or long-term care facility may harbor harmful bacteria. Limited evidence from 2 small single-center randomized controlled trials (RCTs) suggests that surgical scrub contamination risk is not increased by dressing at home or wearing scrubs to make rounds or in department offices. More studies are need to confirm findings."

Recent Literature of Note

[CDC](#): Preliminary Estimates of the Prevalence of Selected Underlying Health Conditions Among Patients with Coronavirus Disease 2019 — United States, February 12–March 28, 2020 (early release 31 March 2020)

Data from 7,162 of 122,653 (5.8%) U.S. COVID-19 cases reported to CDC, of which 2,692 (37.6%) patients had one or more underlying health condition or risk factor, and 4,470 (62.4%) had none of these conditions reported.

"The percentage of COVID-19 patients with at least one underlying health condition or risk factor was higher among those requiring intensive care unit (ICU) admission (358 of 457, 78%) and those requiring hospitalization without ICU admission (732 of 1,037, 71%) than that among those who were not hospitalized (1,388 of 5,143, 27%). The most commonly reported conditions were diabetes mellitus, chronic lung disease, and cardiovascular disease. These preliminary findings suggest that in the United States, persons with underlying health conditions or other recognized risk factors for severe outcomes from respiratory infections appear to be at a higher risk for severe disease from COVID-19 than are persons without these conditions."

"It is not yet known whether the severity or level of control of underlying health conditions affects the risk for severe disease associated with COVID-19."

[Lancet Infect Dis](#): Estimates of the severity of coronavirus disease 2019: a model-based analysis

Model is based on individual-case data for patients from Hubei, mainland China, along with reported cases from Hong Kong and Macau, who died from COVID-19. "[W]e estimated the mean duration from onset of symptoms to death to be 17.8 days (95% credible interval [CrI] 16.9–19.2) and to hospital discharge to be 24.7 days (22.9–28.1)." The authors estimate a case fatality ratio of 1.38% for COVID-19 in China.

In Brief

– based on literature alerts, news reports, social media, and other current awareness sources

Resource Scarcity

A viewpoint published in JAMA discusses healthcare providers' legal liability for withdrawing or withholding ventilators during COVID-19 pandemic ([JAMA](#)).

Healthcare Personnel

Based on a [paper posted on the preprint server medRxiv](#) (i.e., not yet peer reviewed), there are calls to limit physicians older than 60 from direct patient care and focus on telehealth services ([CIDRAP](#)).

For hospitals not yet fully impacted by COVID-19 cases, suggestions to prepare include: maximizing hospital capacity; optimizing PPE and developing in-house tests; mobilizing and protecting healthcare workers; and looking to recovery and beyond ([CIDRAP](#)).

[See also: <http://www.centerforhealthsecurity.org/cbn/2020/cbnreport-02272020.html> and <https://annals.org/aim/fullarticle/2763037/how-should-u-s-hospitals-prepare-coronavirus-disease-2019-covid>]

Washington State Department of Health has published return to work guidance for healthcare workers who have confirmed COVID-19 or asymptomatic with known exposure ([WA DOH](#)).

PPE

In a statement released on Tuesday, 31 March, The Joint Commission notes that no standards or requirements prohibit staff from using PPE brought from home and that homemade masks are "an extreme measure" that should only be used when standard PPE is unavailable ([TJC](#)).

The CDC has developed a spreadsheet (Excel)-based model for planning and optimization of PPE for healthcare workers: PPE Burn Rate Calculator ([CDC](#)).

Epidemiology/Infodemiology

The University of Washington has developed a tool for COVID-19 projections assuming full social distancing, available at national and state levels ([UW](#)).

A new article published in Science describes a potential digital contact tracing tool to help mitigate the spread of COVID-19 ([Science](#)).

Researchers at Swinburne University of Technology in Melbourne, Australia have developed a crowd-sourced symptom tracker to monitor the outbreak ([SUT](#)).

Research

The University of Nebraska Medical Center (UNMC) published lessons and recommendations for implementing research studies in the midst of response activities for health emergencies ([Am J Trop Med Hyg](#)).

References

Am J Trop Med Hyg: Brett-Major DM, et al. Advanced Preparation Makes Research in Emergencies and Isolation Care Possible: The Case of Coronavirus Disease. Am J Trop Med Hyg published online 30 March 2020. Link:

<http://www.ajtmh.org/content/journals/10.4269/ajtmh.20-0205>

CADTH: Canadian Agency for Drugs and Technologies in Health. Rapid response report: infrared thermometers for detecting fever: clinical effectiveness (17 October 2014). Link:

<https://www.cadth.ca/sites/default/files/pdf/htis/nov-2014/RA0705%20Infrared%20Thermometers%20Final.pdf>

CDC: Centers for Disease Control and Prevention. Personal Protective Equipment (PPE) Burn Rate Calculator (30 March 2020). Link: https://www.cdc.gov/coronavirus/2019-ncov/hcp/ppe-strategy/burn-calculator.html?deliveryName=USCDC_10_4-DM24118/

CDC: Centers for Disease Control and Prevention. Non-Contact Temperature Measurement Devices: Considerations for Use in Port of Entry Screening Activities (22 August 2014). Link: https://stacks.cdc.gov/view/cdc/24857/cdc_24857_DS1.pdf

CDC: Centers for Disease Control and Prevention. Preliminary Estimates of the Prevalence of Selected Underlying Health Conditions Among Patients with Coronavirus Disease 2019 — United States, February 12–March 28, 2020. MMWR Morb Mortal Wkly Rep. ePub: 31 March 2020. Link: <https://www.cdc.gov/mmwr/volumes/69/wr/mm6913e2.htm>

CIDRAP: Center for Infectious Disease Research and Policy. Because of age, third of US doctors prone to worse COVID-19 (31 March 2020). Link: <http://www.cidrap.umn.edu/news-perspective/2020/03/because-age-third-us-doctors-prone-worse-covid-19>

CIDRAP: What can hospitals still do to prep for COVID-19? (31 March 2020). Link: <http://www.cidrap.umn.edu/news-perspective/2020/03/what-can-hospitals-still-do-prep-covid-19>

ECDC: European Centre for Disease Prevention and Control. Technical report: Entry and exit screening measures (12 October 2014). Link:

<https://www.ecdc.europa.eu/sites/portal/files/media/en/publications/Publications/Ebola-outbreak-technicalreport-exit-entry-screening-13Oct2014.pdf>

ECRI: Infection Risk from Scrubs Worn Outside Patient Care Settings (March 2018). Link: https://assets.ecri.org/PDF/COVID-19-Resource-Center/COVID-19-Clinical-Care/COVID-ECRI_HTA_Infection-Risk-Scrubs-Worn-Outside-Patient-Care-Setting.pdf

ECRI: Infection Risk from Scrubs Worn Outside Patient Care Settings (March 2020). Link: <https://assets.ecri.org/PDF/COVID-19-Resource-Center/COVID-19-Clinical-Care/COVID-ECRI-Temperature-Screening.pdf>

ECRI: Safety of Extended Use and Reuse of N95 Respirators (March 2020). Link: <https://assets.ecri.org/PDF/COVID-19-Resource-Center/COVID-19-Clinical-Care/COVID-ECRI-N95-Respirators.pdf>

JAMA: Cohen IG et al. Potential Legal Liability for Withdrawing or Withholding Ventilators During COVID-19 Assessing the Risks and Identifying Needed Reforms (01 April 2020). Link: <https://jamanetwork.com/journals/jama/fullarticle/2764239>

Lancet Infect Dis: Verity R et al. Estimates of the severity of coronavirus disease 2019: a model-based analysis. Lancet Infectious Disease (30 March 2020). Link: [https://www.thelancet.com/journals/laninf/article/PIIS1473-3099\(20\)30243-7/fulltext](https://www.thelancet.com/journals/laninf/article/PIIS1473-3099(20)30243-7/fulltext)

Science: Ferretti L et al. Quantifying SARS-CoV-2 transmission suggests epidemic control with digital contact tracing. Science published online 31 Mar 2020: Link: <https://science.sciencemag.org/content/early/2020/03/30/science.abb6936.full>

SUT: Swinburne University of Technology (Melbourne, Australia). COVID-19 Symptom Tracker. Link: <https://beatcovid19now.org/>

TJC: The Joint Commission. Position Statement: Staff Use of Their Own Personal Protective Equipment in Healthcare Settings (31 March 2020). Link: https://www.jointcommission.org/-/media/tjc/documents/resources/patient-safety-topics/infection-prevention-and-hai/covid19/public_statement_on_masks_from_home.pdf

UW: University of Washington, Institute for Health Metrics and Evaluation. COVID-19 projections assuming full social distancing through May 2020 (01 April 2020). Link: <https://covid19.healthdata.org/>

WA DOH: Washing State Department of Health. Return to Work Guidance for Healthcare Workers (HCWs) and First Responders (FRs) Who Have Confirmed COVID-19 Infection or Are Asymptomatic with High or Medium Risk Exposures* to a Known Case of COVID-19 (updated 20 March 2020). Link: <https://www.doh.wa.gov/Portals/1/Documents/1600/coronavirus/HealthCareworkerReturn2Work.pdf>

Other Curated Resources & Readings

Quilty BJ, Clifford S, Flasche S, Eggo RM; CMMID nCoV working group. Effectiveness of airport screening at detecting travellers infected with novel coronavirus (2019-nCoV). *Euro Surveill.* 2020 Feb;25(5). doi: 10.2807/1560-7917.ES.2020.25.5.2000080. Erratum in: *Euro Surveill.* 2020 Feb;25(6):. PubMed PMID: 32046816; PubMed Central PMCID: PMC7014668. Link: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7014668/>

- Simulation study that found airport screening is unlikely to detect SARS-CoV-2–infected travelers.

Novel Coronavirus Resources from TRACIE (Technical Resources, Assistance Center, and Information Exchange) From: Office of the Assistant Secretary for Preparedness and Response [U.S. Department of Health and Human Services] (HHS ASPR). Link: <https://asprtracie.hhs.gov/COVID-19#covid-19-websites>

- Curated content from a wide range of sources (peer-reviewed and grey lit) and resources organized into topic collections, including: alternate care site; crisis standards of care; emergency department; hospital triage/screening; fatality management; personal protective equipment; and workforce protection/sustainability.